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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10 020,894	12 19 2001	Jeong-Ki Park	8733,556.00	8841

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WASHINGTON, DC 20006

EXAMINER

ERDEM, FAZLI

ART UNIT	PAPER NUMBER
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2826

DATE MAILED: 07/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/020,894

Applicant(s)

PARK ET AL.

Examiner

Fazli Erdem

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6 and 8
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 2, 6-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al. (5,760,854) in view of Kaneko et al. (6,146,796) further in view of Yamamoto et al. (5,530,568).

Regarding Claims 1,2,6-18, Ono et al. disclose liquid crystal display apparatus where in order to provide a liquid crystal display apparatus having bright image display and a preferred production yield, a gate insulating film under a transparent pixel electrode on a transparent substrate is provided with an aperture smaller than a plane area of the pixel electrode and a source electrode pattern under the pixel electrode is composed so as to cross the aperture. End portions of the gate electrode and the laminate layer are tapered. Ono fail to disclose the required common line and the required conducting line structures. However, Kaneko et al. disclose a liquid crystal display where the required common line structure is disclosed. Furthermore, Yamamoto et al. disclose a matrix liquid crystal, display device having testing pads of transparent conductive film where the required conducting line structure is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the common line and the conducting line structures in Ono et al. as taught by Kaneko et al. and Yamamoto et al. respectively in order to have a liquid crystal display with better electrical conductivity characteristics.

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2. Claims 3-5 rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al. (5,760,854) in view of Kaneko et al. (6,146,796) further in view of Yamamoto et al. (5,530,568) further in view of Hirakata et al. (6,239,854).

Regarding Claims 3-5, Ono et al. disclose liquid crystal display apparatus where in order to provide a liquid crystal display apparatus having bright image display and a preferred production yield, a gate insulating film under a transparent pixel electrode on a transparent substrate is provided with an aperture smaller than a plane area of the pixel electrode and a source electrode pattern under the pixel electrode is composed so as to cross the aperture. End portions of the gate electrode and the laminate layer are tapered. Ono fail to disclose the required common line, the required conducting line structure, and the required auxiliary pattern structures. However, Kaneko et al. disclose a liquid crystal display where the required common line structure is disclosed. Furthermore, Yamamoto et al. disclose a matrix liquid crystal, display device having testing pads of transparent conductive film where the required conducting line structure is disclosed. Hirakata et al. disclose a liquid crystal display device with an adjustment layer not connected to driving circuit to even out height difference in the sealant region where the required auxiliary pattern structure is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the common line, the conducting line structure, and the auxiliary pattern structures in Ono et al. as taught by Kaneko et al., Yamamoto et al., and Hirakata et al. respectively in order to have a liquid crystal display with better electrical conductivity characteristics.

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3. Claims 19-27 rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al. (5,760,854) in view of Kim (6,146,796) further in view of Johnson (4,630,355).

Regarding Claims 19-27, Ono et al. disclose liquid crystal display apparatus where in order to provide a liquid crystal display apparatus having bright image display and a preferred production yield, a gate insulating film under a transparent pixel electrode on a transparent substrate is provided with an aperture smaller than a plane area of the pixel electrode and a source electrode pattern under the pixel electrode is composed so as to cross the aperture. End portions of the gate electrode and the laminate layer are tapered. Ono fail to disclose the required method of making common line and the required method of making conducting line structures. However, Kim et al. disclose a liquid crystal display and a manufacturing method thereof where the required method of making common line structure is disclosed. Furthermore, Johnson discloses electric circuits having repairable circuit lines and method of making the same where the required method of making conducting line structure is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required method of making common line and the required method of making conducting line structures in Ono et al. as taught by Kim et al. and Johnson respectively in order to make a liquid crystal display with better electrical conductivity characteristics.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fazli Erdem whose telephone number is (703) 305-3868. The examiner can normally be reached on M - F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

FE
July 14, 2003